

REMARKS

Claims 1-12 are pending in the present application. In the Office Action, claims 1-12 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Itoh, et al (U.S. Patent No. 5,787,126). The Examiner's rejections are respectfully traversed.

Independent claims 1 and 6 set forth, among other things, a multiplier circuit including first and second mixers and a generator for generating two first and two second control signals for controlling the first and second mixers. The claimed two first and two second control signals are balanced signals and are provided in four phases each shifted by $\pi/2$ in phase. The claimed control signals also have a frequency different from a frequency of a mixer input signal.

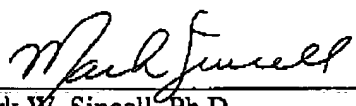
Itoh describes a harmonic quadrature mixer including two even harmonic mixers 40a and 40b. A zero-degree distributor 6 distributes first and second signals, which are equal in phase and magnitude, to the even harmonic mixers 40a and 40b, respectively. The first and second signals have the same frequency as received wave f_r . The 45-degree phase shifter 42 provides third and fourth signals to the harmonic mixers 40a and 40b, respectively. The third and fourth signals have a frequency f_p that is different than the frequency of the received wave f_r and are shifted in phase relative to one another by 45° , i.e. they have a phase difference of $\pi/4$. See Itoh, col. 9, ll. 9-27 and Figures 1 and 2. However, Itoh does not describe or suggest two first and two second control signals provided in four phases each shifted by $\pi/2$ in phase. Itoh also fails to teach or suggest two first and two second control signals having a frequency different from a frequency of a mixer input signal.

For at least the aforementioned reasons, Applicants respectfully submit that the present invention is not anticipated by Itoh and request that the Examiner's rejections of claims 1-12 under 35 U.S.C. 102(b) be withdrawn.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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